

REMARKS

This application has been reviewed in light of the Office Action dated February 1, 2005. Claims 1 and 3 - 8 are now presented for examination. Claims 1, 3, 4, 5, 6 and 8 have been amended to more particularly point out and distinctly claim the subject matter regarded as the invention. Support for this amendment is detailed in the remarks that follow. No new matter has been added. Claims 2 and 9 -24 are canceled.

Claim 1 is independent.

Favorable review is respectfully requested.

The §102 rejection:

Claims 9, 10, 13 and 14 have been rejected by the Examiner under 35 U.S.C. §102(e) as being anticipated by Yatskov et al. U.S. Pat. No. 6,641,406.

Claims 9, 10, 13 and 14 have been canceled thereby rendering their rejection moot.

The §103 rejection:

Claims 11 and 12 have been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Yatskov et al. U.S. Pat. No. 6,641,406.

Claims 11 and 12 have been canceled thereby rendering their rejection moot.

Claims 1 – 8 have been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over the known LGA prior art in view of Yatskov et al. U.S. Pat. No. 6,641,406.

Claim 1 has been amended to more particularly point out and distinctly claim the subject matter applicants regard as their invention. Specifically, claim 1 has been amended to include the features of claim 2. Claim 1 has been further amended to more particularly claim that the micro-bump increases the contact area between the fuzz button and bottom surface contact pad. Support for this amendment is found at least in paragraphs [0031] and [0035] and Figure 7E.

Yatskov teaches providing micropads on the electrical contact pads. Only the micropads make electrical contact with the circuit board. Since the surface area of the micropads is much smaller than the surface area of the electrical contact pad, a large pressure is provided at the micropad/circuit board electrical contact interface. See Col 4, lines 4 – 13. Therefore Yatskov teaches increasing the contact interface pressure by

decreasing the contact area between the circuit board and the connector by placing micropads on the connector. This provides a large pressure at the electrical interface even when low pressure is provided to the connector as a whole since only the smaller total surface area of the micropads make actual electrical contact.

In contrast, the present invention discloses the use of micro-bumps on a contact pad to increase the contact area between the contact pad and the fuzz button contact. In the present invention the micro-bumps do not contact the fuzz button connector instead of the contact pad, but rather the micro-bumps contact the fuzz button in addition to the contact pad. The increased surface contact area provided by the micro-bumps, in addition to the bulk contact area provided by the conventional contact pad, results in better electrical interconnection and reliability over that available in the prior art. As discussed *supra*, Yatskov does not teach the use of micro-bumps to increase contact area. Rather, the reference teaches away from this, and discloses the use of micropads to decrease the overall contact area. Accordingly, neither the known LGA discussed by applicant, nor Yatskov, nor a combination thereof renders obvious applicants' amended claim 1. Since claims 3 – 8 depend, directly or indirectly, from claim 1, and since claim 1, as amended, is believed to be allowable, then claims 3 – 8 are believed to be allowable as well.

Drawings:

The Examiner has objected to Figures 7A, 7B and 7C. The Examiner stated that Figures 7A, 7B and 7C should not be linked by arrows and that Figures 7B and 7D should be labeled as prior art. Figure 7 has been corrected accordingly and a replacement sheet provided with this response.

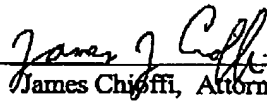
Summary:

In view of all the preceding amendments and remarks, it is respectfully requested that any objections or rejections to this application be reconsidered and withdrawn. Further action with respect to the present application is earnestly solicited. If the Examiner finds this application is deficient in any respect, the Examiner is invited to contact the undersigned at the Examiner's earliest possible convenience.

For the foregoing reasons, allowance of the claims is respectfully solicited. No fee is believed to be due for this submission. If any fees are required, however, the Commissioner is hereby authorized to charge such fees to Deposit Account No. 09-0458.

Respectfully submitted,
Jeffrey A. Brody, et al.

By:


James Chiuffi, Attorney
Registration No. 51,564
Telephone: (845) 894-3363